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Development of a Teacher Checklist for Childhood Dissociative Disorders.

Audrey Jean. Don
University of Windsor

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DEVELOPMENT OF A TEACHER CHECKLIST FOR CHILDHOOD DISSOCIATIVE DISORDERS

by

Audrey Jean Don

B. F. A. Columbus College of Art and Design, 1990

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ABSTRACT

Dissociative disorders (DDs) in adults have received increasing attention over the past 20 years, while childhood DDs have remained little known and rarely diagnosed. Since DDs are treatable and presumed to arise in childhood, early identification is critical. The Teacher Checklist for Childhood Dissociative Disorders (TCCD) was developed as a screening instrument to identify children with possible DDs. At a treatment center for children with learning disabilities (LD) and socioemotional problems, 26 children were rated on the TCCD by social workers, teachers, and additional staff. Children with DDs were independently diagnosed by a psychologist working in the school. The children were also tested on visual and verbal memory measures to compare subjects with DDs to the remaining LD sample; no significant differences were found. The TCCD demonstrated good internal consistency, test-retest reliability, interrater reliability, and discriminant validity. Discriminant analysis revealed that social workers best identified the DD children by dissociative symptoms and behavior sequences, while teachers discriminated the children best by behavioral problems and affective symptoms. The TCCD shows promise as a screening instrument for this often missed and misdiagnosed childhood disorder. However, further testing of the instrument in different settings is needed.

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CHAPTER I

INTRODUCTION

Over the past 20 years dissociative disorders (DD), and specifically multiple personality disorder (MPD) have received increased attention in psychological literature. Greaves, (1991) compiled a comprehensive data base of 3,000 references germane to the field of dissociation. He reported a 65-fold increase in the number of articles pertaining to dissociation in the years from 1981-1990 as compared to tnose in the period from 1791-1970. This vast growth in the literature reflects both an increased understanding and questioning about DDs and MPD, as well as their growing importance in psychological literature.

According to the Diagnostic and Statistical Manual III-Revised (APA, 1987), Dissociative Disorders are characterized by "a disturbance or alteration in the normally integrative functions of identity, memory, or consciousness" (p. 269). MPD occurs as an extreme manifestation of dissociative phenomena. In MPD, the individual's customary sense of identity is lost and the individual assumes an alternate identity when in the dissociative state.

Most DDs are reported to arise in adolescence and early adulthood, while MPD is always presumed to originate in

childhood. In almost all of the reported cases, MPD is thought to arise from the use of dissociation as a defense against severe chronic childhood abuse and/or trauma (Bhears, 1990; Bloch, 1991; Draun, 1985; Coons, 1986; Kluft, 1984, 1985; Lowenstein, 1991; Peterson, 1990; Putnam, 1989, 1991; Reagor, Kasten, Morelli, 1992; Terr, 1991; Tyson, 1992). In a review of 100 cases of MPD, Putnam, Guroff, Silberman, Barban, and Post (1986) reported that 97% of the patients had a history of severe childhood trauma: most commonly, chronic and severe physical, emotional, and/or sexual abuse.

According to Ross (1991), "MPD is the only form of severe mental illness for which there is an understanding of etiology that leads directly to a detailed understanding of phenomenology, in turn to the details of therapy and finally to the possibility of cure in a good proportion of cases" (p. 515). Other clinicians experienced in the treatment of MPD share this point of view (E.g., Bhears, 1990; Bloch, 1991; Braun, 1985; Coons, 1986; Kluft, 1984, 1985; Lowenstein, 1991; Peterson, 1990; Putnam, 1989, 1991; Reagor, Kasten, Morelli, 1992). These findings have been noted in both adult and childhood forms of the disorder, although information on the latter is extremely limited. Children, in general, appear to exhibit less severe symptomatology and recover more quickly (Braun, 1985; Kluft, 1984; Putnam, 1989; Regor, Kasten, Morelli, 1992).

Since all adults diagnosed with MPD are presumed to have had the disorder since childhood, early identification of MPD is critical to permit timely treatment and allow a more satisfactory productive life. Despite increased awareness in the past 20 years, an adult MPD patient in 1986 was in the mental health system on average 7 years before diagnosis (Kluft, 1991; Schultz, Braun, & Kluft, 1989). The lack of detection occurred for a number of reasons. Primarily because symptoms of MPD mimic those of many other psychiatric disorders, and the index of suspicion for MPD was (and remains) low. In addition, because MPD most often presents in a non-flamboyant form, the low index of suspicion leads to delayed diagnosis (Coons, 1980; Kluft, 1991; Ross, Norton, & Wozney, 1989; Schultz, Braun, Kluft, 1989).

Currently, the index of suspicion for childhood MPD is extremely low and reports of childhood MPD are very rare (Bloch, 1991; Fagan & McMahon, 1984; Hornstein & Tyson, 1991; Kluft, 1985; Putnam, 1991; Reagor, Kasten, & Morelli, 1992). In fact, they are as rare as reported adult cases were 20 years ago. Based on childhood etiology, an approximately equal prevalence of childhood and adult MPD cases should be expected. Analogous to recent experience in identifying adult cases, attention to childhood DD should provide evidence of a larger number of child cases. The probable substantial number of unrecognized and untreated

childhood cases of MPD clearly indicates that research in this area is needed. Identifying this under-recognized population is the focus of this study.

Childhood Dissociative Disorders

According to the DSM-III-R, criteria for the diagnosis of MPD or DDs in childhood do not differ from that of the adult disorder. However, knowledge of childhood DDs is limited, based mainly on retrospective reports from adult patients and clinical reports of childhood cases (Albini & Pease, 1989; Dell & Eisenhower, 1990; Hornstein & Tyson, 1991; Kluft, 1984; Peterson, 1990; Putnam, 1991; Vincent & Pickering, 1988).

Based on information from clinicians, childhood MPD and DDs are somewhat different than the adult manifestations. In a review of 21 childhood cases, Peterson (1990) concluded that children rarely exhibit totally independent, fully developed personalities. However, all of these children had marked behavioral fluctuations, such as dramatic changes in apparent cognitive ability noted in academic performance, and depression. Almost all had amnestic periods and exhibited trance-like behavior. Kluft (1978) and Putnam (1981) noted additional symptoms, such as apparent lying (lack of knowledge of behavior during amnestic period), conduct disorder, attentional problems, auditory hallucinations (internal, rather than external in origin),

and sleep disorder. These observations were substantiated and elaborated on in additional case reports (Albini & Pease, 1989; Dell & Eisenhower, 1990; Hornstein & Tyson, 1991; Kluft, 1984, 1985; Peterson, 1990; Putnam, 1991; Vincent & Pickering, 1988). As noted in adults with DDs, children with DDs almost invariably were diagnosed with other disorders, such as attention deficit, learning disability, conduct disorder, and were unsuccessfully treated before the underlying DD was recognized (Braun, 1985; Kluft, 1985; Peterson, 1990; Putnam, 1991).

Many factors contribute to the lack of identification of DDs in children. To begin, children with MPD have high rates of other psychopathology which are more readily recognized and diagnosed because of the low index of suspicion for childhood DDs. DSM-III-R criteria are based on adult cases and do not fully reflect the qualitative differences seen in childhood DDs, and too little is known about these differences. With increased knowledge, identification should increase. However, other factors complicate perceptions of childhood DDs, MPD in particular, and must be addressed before further consideration of the identification of these disorders.

Controversy surrounding MPD

Although the need for research into childhood DDs and MPD is clear, for some therapists, the lack of identification or

recognition of childhood MPD has created controversy concerning the validity of the disorder. MPD is controversial for a number of reasons. The dramatic increase in the number of adult cases reported over the last two decades (sometimes argued to be created by therapists), the scarcity of reported childhood cases, and a lack of understanding of the underlying phenomena of dissociation contribute to the controversy (Dell, 1988; Kluft, 1985; Putnam, 1991).

In studies investigating the iatrogenesis (i.e. therapist induced illness) theory, simulated MPD fails to substantiate this hypothesis (Braun, 1984; Kluft, 1987, 1989; Putnam, 1984; Rabinowitz, 1989; Spanos, Weekes, & Bertrand, 1985). Findings of similar phenomenology associated with MPD in case studies from countries as diverse as India, Puerto Rico, the Netherlands, Spain, Canada and the United States argue additionally for the validity of the disorder (Adityanjee & Khandelwal, 1989; Matinez-Toboas, 1989; Putnam, 1991; van der Hart & Boon, 1990).

However, the diagnosis of MPD continues to be challenged by psychologists, psychiatrists, social workers, nurses, and other mental health care workers despite professional consensus on its existence, as exemplified by its inclusion in both the Third and Revised Third edition of the Diagnostic and Statistical Manual of Mental Disorders

(DSM-III & DSM-III-R) (A P A, 1980, 1987). Acceptance of MPD is polarized within the profession. A review of current studies addressing epidemiology of the disorder and a discussion of dissociation are, therefore, warranted.

Epidemiology

The recent substantial increase in the number of reported MPD cases has been employed to sustain the controversy surrounding the validity of the disorder. This increase, it is claimed, came about as a result of therapist fascination with the disorder and concomitant overdiagnosis (Dell, 1988, Kluft, 1885). However, this argument may only be used if a common finding is ignored: in general, when criteria are defined for a disorder, reported incidence increases. For example, as late as the 1960s, childhood depression was considered nonexistent or so rare that research in this area would have seemed meaningless (Rie, 1966; Rochlin, 1959). However, childhood depression was considered, criteria were created to define expected characteristics of the disorder, and prevalence studies were undertaken. Today, the validity of childhood depression is not debated. Although prevalence data is limited, 1.7% of 10-year-olds were estimated to suffer from major depression and/or dysthymic disorder as defined by DSM-III criteria (Kaplan & Saddock, 1988). This represents a substantial increase from zero. The increased incidence of reported MPD cases appears to follow a similar

pattern.

Prior to 1984, MPD was assumed to be rare. During the mid-1980s, clinicians working with MPD patients realized that the disorder was not unusual (Bliss & Jepstien, 1985; Graves, 1989; Kluft, 1985; Putnam, Loewenstein, Silberman, & Post, 1986). With the development of the Dissociative Experiences Scale, (Bernstein & Putnam, 1986; Ensink & van Otterloo, 1989; Frischholz, et al, 1990; Ross, Joshi, & Currie, 1990; Ross, Norton & Anderson 1988; Ross, Ryan, & Anderson, Ross, & Hardy, 1989), the Dissociative Disorders Interview Schedule (DDIS) (Ross, Heber, Norton, Anderson, Anderson, & Barchet, 1989), and Structured Clinical Interview for DSM-III-R Dissociative Disorders (SCID-D) (Steinberg, Rounsaville, & Cicchetti, 1990, 1991), two structured interviews for the diagnosis of dissociative disorders, valid and reliable measures of adult dissociation became available and incidence research became possible. Early studies confirmed the clinical impression of a high prevalence rate for DDs and MPD in the adult psychiatric population (Ross, 1991).

An important extension of this research was Ross' population study of DD and MPD prevalence in Winnipeg (Ross, 1991). The study was conducted in two parts: (1) a population study using the DES (1055 subjects in a stratified cluster sample), and (2) follow-up interviews using the DDIS, with as many of the original subjects as

possible. Based on cutoff scores established by using the DES in clinical populations, the results suggested "that DDs may have a prevalence of 5% to 10% in the general population" (Ross, 1991, p. 509). Although the second phase is not yet complete (43% of the subjects have been interviewed), data gathered thus far suggest "DDs as a group are as common as anxiety and affective disorders" while MPD, as expected, is less common; based on DSM-III-R criteria, it was diagnosed in 3.1% of the sample interviewed (Ross, 1991, p. 515).

Epidemiological research of childhood DDs is lacking. However, existing studies generally report a higher rate of normal dissociative experiences in children than in adults (Campos, Campos, & Barrett, 1989; Putnam, 1991).

Models of dissociation and the development of DD

Since the term, dissociation, is not fully understood, a review of the major models of this defense is presented to help define the phenomena under discussion. The first use of the term 'dissociation' is credited to Pierre Janet, who used it in 1889 (Ellenberger, 1970; Hilgard, 1977). Janet considered dissociation to be a splitting or dividing of consciousness that occurred with hysteria; amnesia occurred for the dissociated experiences (Braun, 1988). Dissociation was recognized in William James' Principles of Psychology (1890), but was for the most part ignored following the

general acceptance of Freud's endorsement of repression as the primary defence mechanism in which memories, impulses, ideas, and emotions are lost to consciousness (Meissner, 1988). The major difference between Janet's concept of dissociation and Freud's theory of repression is reflected in the presumed basis for amnesia. Janet's concept of dissociation focused on amnesia that occurred because of the unacceptability of one's experience, while Freud believed that the amnesia of repression occurred because of the uancceptability of one's impulses. Although Freud's influence waned during the middle of the 20th century, dissociation continued to be disregarded because of the dominance of behavioral psychology. With the rise of cognitive psychology, restored interest in mental processes brought renewed attention to dissociation.

Currently, dissociation is viewed as occurring on a continuum ranging from everyday occurrences such as daydreaming to pathological manifestations such as MPD (E.g., Beahrs, 1983; Bliss, 1980; Braun & Sachs, 1985; Coons, Bowman, Milstein, 1988; Greaves, 1980; Kluft, 1985; Putnam, 1985, 1991; Wilbur, 1985). Dissociation occurs when a set of mental processes such as feelings, thoughts, or memories, are split off or separated from consciousness. Dissociation is often considered within a developmental framework and may also be perceived as an altered state phenomenon.

From a developmental perspective, dissociation is viewed as a normal phenomenon of childhood which ordinarily lessens as the child develops a mature sense of identity (Campos, Campos, & Barrett, 1989; Putnam, 1991). Under conditions of severe early abuse or trauma, dissociation may become the child's primary defense and a pathological DD such as MPD may result (Braun & Sachs, 1985; Kluft, 1985; Putnam, 1985, 1991; Wilbur, 1985). Kluft (1986) acknowledged innate differences in children when he specified four factors that must be present in the child for MPD to develop. The child must (1) have a biological capacity to dissociate, (2) experience repeated trauma, (3) have influences that reinforce the coalescing of the dissociated psychological processes into separate identities, and (4) must lack adequate support to reestablish normal personality development. When dissociation is used as a major defense, and a stable sense of self develops, other forms of dissociative psychopathology may occur (Putnam, 1985).

In 1984, Braun proposed a theory of dissociation that links the individual's neuropsychophysiologic condition with state-dependent learning and ultimately to memory and amnesia. According to state-dependent theory, learning that occurs in one state, affective and/or physiological, is remembered best in the same state that it was learned (Zimbardo, 1992). Braun (1984) speculated that the creation

of an alter personality may occur with repeated dissociations that are linked together by similar neuropsychophysiologic states (such as might occur with repeated trauma). These repeated dissociations permit "the association of facts, the development of congruent, stable memories, ranges of emotion and response patterns" (p. 5) to develop into personality states separate from normal consciousness (Braun, 1984). These separate personality states have been hypothesized to occur through the child's use of self-hypnosis in response to trauma (Putnam, 1991). Although dissociation and the development of MPD has been variously conceptualized, the phenomena of dissociation and the childhood origin of MPD have been consistently described.

Identification of children with dissociative disorders

Based on case studies and retrospective reports, a portrait that encompasses a constellation of symptomatic behaviors found in children diagnosed with DDs emerges. These are relatively infrequent behaviors that individuals with regular contact with the child are most likely to observe. Because these individuals are most likely to observe these infrequent behaviors, checklists for dissociative behaviors were devised to increase clinicians' ability to recognize and identify children with DDs.

Kluft (1984), Putnam (1981), and Fagan and McMahon

(1984) developed behavior checklists as screening instruments for the identification of childhood DDs. Kluft (1984) and Putnam (1981) developed their instruments based on retrospective reports from adult MPD cases and clinical case reports of children with DDs. Fagan and McMahon (1984) added items such as sleep disturbance to their checklist based on symptomatic behaviors reported by parents and teachers of children with DDs, and subjective experiences noted in three children whose cases were well known to the authors. The shortage of clinical cases reflects the scarcity of well documented childhood reports. In 1990, Peterson recognized only 21 such reports in the literature regarding to dissociation. Fagan and McMahon's checklist was tested by clinicians and appeared helpful in increasing clinicians' index of suspicion for childhood DDs (1992). As a logical continuation of their work, Fagan and McMahon suggested extending the use of checklists to non-clinicians to screen for DDs in populations of children at risk for DDs (1991). This study has attempted to do just that.

Development of the Teacher Checklist for Childhood Dissociative Disorders

After reviewing the literature, and of each of the checklists mentioned above, it was apparent that more items, and a more detailed, operationalized checklist appropriate for teachers, social workers, and other children's service

workers was needed. Symptoms from available childhood cases, retrospective reports, and existing checklists were compiled and categorized. Eight major categories of symptoms were found on the previously mentioned checklists: dissociative symptoms, behavioral fluctuations, third person quality, behavioral problems, affective symptoms, process symptoms, posttraumatic symptoms, and traumatic histories. These categories were consistent with symptoms reported in the literature. Sleep disorders were another commonly reported symptom, but were not considered in the development of the checklist. Only behaviors that could be observed outside of the home were selected.

For the Teacher Checklist for Childhood Dissociative Disorders, items based on the eight categories were operationalized and designed as statements for teacher evaluation. Items from previous checklists were adapted where possible. For example, item 16 on Putnam's (1981) checklist, "Child has intense outburst of anger, often without apparent cause and may display unusual physical strength during these episodes." was adapted for the checklist. The adapted statement, "the child/adolescent has temper outbursts and/or explosive anger" is rated and an additional statement "after which, child goes back to 'normal' with seemingly no memory of previous behavior" is also rated to evaluate the dissociative aspect of this experience. Statements identifying a more specific

dissociative aspect of a symptoms, such as the one "after which, child goes back to 'normal' with seeming no memory of previous behavior" noted above , were added after appropriate items to create a symptom magnification category for the checklist. Additional items were created by a psychologist experienced in treating children with DDs.

Items were rated on a three point scale: Yes/very much/frequently, occasionally/somewhat, and no. Dummy items reflecting normal, but related childhood behaviors were added to lessen response bias. The checklist items were arranged in randomized order to further prevent response bias. For a complete listing of categories, sources and corresponding checklist items, see appendix B. Rules for scoring the checklist are specified in appendix C.

Rationale for study

For this instrument to be useful, it must discriminate between children with dissociative disorders and those with disorders with which DDs may be mistaken. Children with Learning Disabilities (LD) present one such group.

Children with DDs may present a problem in school because of their confusing behavior and erratic academic performance which presents a perplexing picture to the teacher. These children typically have a poor response to intervention and do not seem to learn from experience. They may be mistakenly classified as LD or correctly identified

as learning disabled, but a concurrent DD may go unrecognized. Treatment, directed solely at the LD may be inappropriate and result in continued frustration for student and teacher. Identification of children suffering from DDs, either mis-diagnosed with LD, or with a concurrent LD, may result in more appropriate treatment.

The current study took place within the context of a larger study of childhood dissociation at a treatment centre/school for children with LD. The purpose of the study was to provide needed research into the identification of children with DDs within the LD population. If children with DDs were identified, appropriate treatment was available. The Teacher Checklist for Childhood Dissociative Disorders should allow detection of this under-identified group. Because children with the nonverbal learning disabilities (NLD) subtype of learning disability display some symptomatic behaviors similar to those with DDs, such as a poor sense of time, an experimental checklist designed to identify behaviors exhibited by NLD children (Rourke, 1993) was employed as a comparison measure. The addition of this checklist permits further testing of the utility of using results from the Teacher Checklist for Childhood DDs to discriminate children with DDs from those with the NLD subtype of learning disability.

Hypotheses

This research project develops, employs, and initiates validation of a behavior checklist for use by teachers and staff as a screening instrument for children with DDs. Comparison of checklist results for children independently identified with DDs, with those of the rest of the students in the sample will permit the testing of a number of hypotheses. The addition of the NLD behavior checklist and neuropsychological measures used to identify various LD subgroups, allows testing of further hypotheses.

Hypothesis 1. The Teacher Checklist for Childhood Dissociative Disorders will successfully discriminate children with pathological dissociation (in isolation or in combination with LD) from those with LD who are free of pathological dissociation.

Hypothesis 2. Pathological dissociation will be distinguished from dissociative phenomena that occur in the general LD population by the degree and complexity of symptomatology.

Hypothesis 3. Items reflecting inconsistent behaviors will be the major discriminating factor between the above mentioned groups. Children with DDs will score significantly higher on items reflecting inconsistent behavior than will the rest of the sample.

Hypothesis 4. Children with NLD will be differentiated from those with DDs by their relative consistency and lack

of creativity.

Hypothesis 5. Children with dissociative disorders will exhibit relatively normal performance on tests of verbal and nonverbal memory, while those with specific LDs, types RS and NLD, will exhibit specific deficits in verbal and nonverbal memory, respectively.

Chapter II

METHOD

Subjects

The sample was obtained from the 9- to 14-year-old population of the Children's Achievement Centre (CAC) in Windsor, Ontario. The Children's Achievement Centre diagnoses and treats children with central processing disabilities and/or attentional deficits who have experienced significant social and/or emotional difficulties in adapting to the community and traditional school environment (CAC manual, 1983-84).

According to the CAC manual (1983-4):

> Central processing disability refers to a failure to develop or loss of a specific or combination of specific skills or abilities. It is presumed that some sort of underlying impairment in the central nervous system is responsible for this disability. Impairments in perception, cognition, simple motor and psychomotor skills which lead to faulty adaptation would be subsumed by such a term
>
> Attentional deficit disorder refers to signs of developmentally inappropriate attention, impulsivity and/or hyperactivity. This is often characterized by an inability to stay on task and failure to organize

> and complete classroom work. Activities requiring sustained attention are extremely difficult. These children often give the impression that they are not listening or that they have not heard what has been said (p. 2).

Mental health needs, as well as central processing and/or attention deficits, are found in the children accepted into the CAC program. The existence of an underlying central processing disorder was often inferred. Criteria for determining the existence of such a deficiency were based on neuropsychological evidence. Firm physiological evidence of such a deficit was usually lacking. In addition, each child admitted to CAC had demonstrated an ability to function in the average range in some area assessed by a standardized neuropsychological battery. For example, a child might exhibit poor performance on many academic tasks, but demonstrate average performance a complex visual problem solving task. Centre treatment programmes take the place of traditional school attendance. All students within the stated age range who attended the Centre full-time were considered for the study.

Each child's parent or guardian was contacted regarding the study and all but 2 of the 28 consented to his or her child's participation. The 26 students were rated on the

the Teacher Checklist for Childhood Dissociative Disorders: Experimental Version by all staff working with each child. One child (not identified clinically with a DD) declined to be tested, and results of the memory measures are reported for the 25 students tested.

Since the school population is predominantly male, the 24 males in the subject sample reflects this proportion. Twenty-four subjects were Caucasian, and two were Black. The mean age of the sample was 12 years, 3 months (SD=1:7). All subjects spoke English as their primary language.

Measures

The measures used in the study were the following:

1. The Teacher Checklist for Childhood Dissociatve Disorders: Experimental Version (TCCD) (Don, 1993). The checklist contains items designed to identify children with DD. Observable aspects of the child's cognitive and behavioral functioning in a treatment/school setting were encompassed (See appendix A). Items on the DD checklists were presented in randomized order to avoid providing a response 'set'. All statements were rated on a three-point scale, as follows: (1) Yes, very much, frequently; (2) somewhat, occasionally; (3) No. Additional space was provided for don't know/not applicable.

2. Nonverbal Learning Disabilities (NLD) Scale: Experimental Version (Rourke, 1993). The NLD scale provides items designed to identify children who fit into the NLD subtype (See appendix D). Cognitive and socioemotional aspects of behavior are encompassed. All statements were rated on a three-point scale, as follows: (1) Yes, very much, frequently; (2) somewhat, occasionally; (3) No.

3. Wide Range Assessment of Memory and Learning (WRAML) (Screening) (Sheslow & Adams, 1990). The first four subtests of the WRAML comprise the Screening Form. The entire standardization sample group was used in development of the WRAML Screening norms. Correlations between the Screening Form and the complete WRAML is .864 for children 9 and older ($p<.0001$). The normative sample for the WRAML was stratified according to 1980 U.S. Census and the 1988 Rand McNally Commercial Atlas and Marketing Guide and was done in a psychometrically sound fashion. The WRAML is a new test; normative data were collected between 1988 and 1989. Coefficient for the General Memory Index (GMI) of the complete WRAML is .96. Criterion-referenced validity was determined by assessing the correlation between the WRAML and McCarthy Memory Index (.72 for the GMI), Memory index on the Stanford Binet (.80 for the GMI), and the

Wechsler Memory Scale-Revised (used with the 16- and 17-year-old sample) (.54 for GMI and WMS-R General Memory Index).

The four subtests include the following:

(1). Picture Memory Subtest. The child is shown 4 complex partially colored drawings. Pictures are presented in order of increasing difficulty. After a 10 s exposure, the child is presented with a similar scene. Picture memory is assessed by the child's ability to indicate each part of the picture that is different from the original picture.

(2). Design Memory Subtest. Four designs are presented (5 s exposure). Memory for the designs is assessed by requesting the child to draw each design following a 10 s delay.

(3). Verbal Learning Subtest. A list of 16 simple words is read to the child four times. After each trial, the child is asked to freely recall as many items as he/she can. This task evaluates the child's rote list learning ability.

(4). Story Memory Subtest. The child hears two short stories of differing developmental levels of interest and linguistic complexity. After each story, the child is asked to relate as many parts of each story as can be remembered. Scoring is based on memory for semantic content as well as exact recall of critical elements of

the story, such as names, numbers, and days.

4. Time Estimation Question. At the end of the interview, children were asked to estimate how much time they had spent with the examiner.

5. Additional Measures. Data from previous neuropsychological testing were used.

Procedure

The children's diagnoses were unknown to the researcher. Participation in the study was programmed into the students' schedules as an optional 30-min period in the day. The WRAML (Screening) and Time Estimation Question were administered during that period. Children received a small reward (e.g., California Raisin figure, refrigerator magnet) upon completion of the interview.

Faculty and staff of the school were asked to fill out an experimental checklist on each child with whom they had contact in at least three of the past six months. All staff agreed to participate. This resulted in 4 to 6 checklists per child. Participating staff included primary teachers (those teaching general subjects to the child), subject teachers, social workers, a vision specialist, a speech pathologist, and co-op students from human kinetics programmes at the University level.

A reliability test of the checklist was performed by asking each staff member to complete duplicate checklists for two of the students four to nine weeks after the original checklists were filled out. All available staff complied. Due to differences in school schedules, only one kinetics student was available for the second administration of the checklists. Each student was re-evaluated in at least one reliability check.

Children with dissociative disorders were independently identified by a psychologist working in the school. To test the validity of the instrument, children identified with possible DDs by high scores on the TCCD were compared to those with independently identified DDs.

To further examine the discrimination between the children identified with DDs and those with specific LD subtypes, neuropsychological test results were used to assign children to learning disability subtypes using criteria similar those employed by Casey, Rourke, and Picard (1991) for the NLD subtype and WRAT-R subtest scores for subtype RS (1991) (See appendix E). Children who did not meet criteria for the RS or NLD subtypes were classified as other LD.

CHAPTER III

RESULTS

The study was designed to investigate non-clinicians use of the TCCD to identify children with possible DDs. The first step in exploring the validity of a new instrument, or its ability to do what it is supposed to do, is establishing the reliability of the instrument. Reliability means that the results of measurements of individuals are repeatable. Reliability must be established before validity can be evaluated.

The reliability of the TCCD was evaluated through an examination of internal consistency, test-retest reliability, and interrater reliability. Internal consistency provides a measure of how consistently all items within a test or instrument are measured. If the test is designed to measure a single underlying concept, all items should be answered consistently. Test-retest reliability provides a measure of the stability of a measure over time. Ideally, if the traits measured do not change over time, the results of the second administration of a test should be the same as the first. However, many factors, such as change in the subject and memory of the instrument influence this measure of reliability. Interrater reliability provides a measure of how well different raters come up with the same

scores when independently rating the same person. With a rating scale, both the rater's perceptions of the individual being evaluated and the situations in which the raters evaluate an individual influence interrater reliability. When raters independently assess an individual in the same situation at the same time, they observe the same behaviors and interrater reliability would be expected to be higher than when the rater's observations of the child take place at different times and in different settings as was the case at CAC.

Internal consistency

The correlation of all items in the test provides a measure of reliability. Chronbach's alpha, a, is the most common statistic used to measure internal consistency. High a values suggest that the items measure a single underlying construct. The reliability coefficient alpha for all items in the TCCD over the all raters was .9383. Alpha for the subscales and two major rater groups was also computed. These are listed in Table 1. Alpha could not be calculated on the abuse history and stress subscales because most items on those scales were marked 'do not know'. In addition, two subscales, development and process symptoms, were not analyzed because they contained too few items (2); however, they were retained as subscales because the items related to clinically and theoretically important concepts. Overall,

Table 1

Correlation coefficients for the TCCD scale

	All raters n=16	Social Workers n=5	Primary Teachers n=4
All items	.9393	.9383	.9422
Subscales			
Dissociation (11 items)	.8596	.8725	.8355
Behavior (7 items)	.7732	.7320	.8142
Affect (5 items)	.6189	.6437	.5832
Magnification (7 items)	.6549	.5985	.7347

values for alpha indicate that the TCCD measures a single underlying concept.

Test-retest reliability

Test-retest reliability provides a measure of the stability of an instrument. Behaviors observed over a period of 3 to 6 months were evaluated on the TCCD and the experimental NLD (Rourke, 1993) scales. Stability of the targeted behaviors over several months was expected. An interval of 4 weeks was proposed for the second administration of the scales; the actual interval ranged from four to nine weeks. Memory for the 90 items from both scales was not expected to inflate estimates of test-retest reliability.

The mean exact agreement (percentage) over all items from administration one to administration two was calculated for each rater/child combination. For some raters, the exact agreement over all items was considerably less than optimum due to scoring items '0' on one rating and 'NA' on the other. Although these changes in rating affected the exact item agreement, they did not affect checklist scores. Therefore, an item-score agreement was calculated considering '0' and 'NA' equivalent. For most raters, a small improvement in percentage agreement was noted, although agreement improved greatly for a few raters because they had scored the entire history section '0' at one rating and 'NA' at the other.

A weighted agreement was also calculated to take into account the relative importance of different types of disagreement. Items in complete agreement were rated 1, items with rater scores from administration one to administration two of 1 to 2 or 2 to 1 were weighted .67, items with scores changes from 0 to 1 or 1 to 0 were weighted .33, and items with score changes of 0 to 2 or 2 to 0 were rated zero. The sum of all item pairs was calculated and divided by the number of items to produce the weighted agreement value. Table 2 presents a summary of the percentage agreements for both checklists across all raters groups.

Raters were classified into two groups: those with 50 or more hours (>4 hours/week) of contact with a child over a three month period (mean=12 hours/week) and those with less than 50 hours contact (mean=2 hours/week). A summary of contact hours by rater is presented in Table 3. Social workers and primary teachers comprised the first group. Subject teachers, specialists, and motor instructors formed the second group.

Mean exact item agreement was 77.4% (*SD*=8.8) for the first group and 72.1% (*SD*=12.1) for the second group. The difference between groups was not statistically significant (*t*=1.26, *p*=.219). When mean score and weighted agreement were calculated, the difference between groups vanished. Mean score agreement for the first group was 80.9% (*SD*=8.8)

Table 2

Test-retest reliability: item agreement

	Total	Social Workers	Primary Teachers	Subject Teachers	Speech and Vision Specialist	Kinetics students
	(n=16)	(n=5)	(n=4)	(n=2)	(n=2)	(n=1)
Exact agreement	75.5%	78.1%	75.8%	72.7	75.0%	65%
(SD)	(10.1)	(9.2)	(8.6)	(9.4)	(8.5)	(21.2)
Score agreement	81.4%	82.2	79.5	83.3	84.0%	77%
(SD)	(9.1)	(8.8)	(9.2)	(12.9)	(9.9)	(7.1)
Weighted agreement	88.5%	88.3	88.1	90.7	89.5	85.5
(SD)	(4.7)	(4.6)	(4.3)	(7.4)	(5.7)	(3.5)

Table 3

Rater contact hours with children in the DD study

	Total	Social Workers	Primary Teachers	Subject Teachers	Speech and Vision Specialist	Kinetics students
	(n=16)	(n=5)	(n=4)	(n=2)	(n=2)	(n=3)
Subjects rated	26	26	26	20	20	26
diagnosed (DD)	7	7	7	5	6	7
non-diagnosed (0-DD)	19	19	19	15	14	19
Hours/ week/ child	7.4	11	15	2.1	1.5	2.0
(SD)	(10.0)	(1.6)	(3.0)	(1.5)	(.8)	(.4)
DD	7.5	11	16.6	1.8	1.6	2.0
(SD)	(6.3)	(1.8)	(2.8)	(.4)	(.5)	(0)
0-DD	6.6	10.2	14.1	2.2	1.4	2.1
(SD)	(5.4)	(1.6)	(2.8)	(.4)	(.2)	(.7)

and 81.7% (SD=9.8) for the second, while weighted agreement was 89.0 (SD=5.6) and 88.2 (SD=4.3) respectively, for the first and second groups.

Although contact hours with the children did not appreciably influence the stability of the measure, it was expected to influence the absolute score each child received. Since raters were asked to identify infrequent behaviors, higher scores were expected from raters with more contact with the children.

The mean sum of the checklist for the non-diagnosed group (0-DD) and the group independently diagnosed with DDs by raters with fewer than 50 hours of contact with children was 10.1 (SD=6.5) and 21.5 (SD=10.6) respectively. The mean sum of the checklist for the 0-DD group and the DD group by raters with more than 50 hours of contact with children 17.0 (SD=12.8) and 40.8 (SD=10.6) respectively.

Since the influence of contact hours on scores was significant (t=2.85, p <.01 for the 0-DD group, t= 6.81, p <.001 for the DD group), only the checklist scores from raters with more than 50 hours of contact with the children were used for evaluation of interrater reliability and validity of the checklist. This resulted in at least two raters per child, one social worker and one primary teacher. Nine of the children had 2 social workers resulting from a change in social workers over the duration of the study. Scores for each child from each social worker were assessed

separately. Their scores were similar, so their results were averaged to yield a composite score. Validity of the checklist was assessed based on the scores from two raters per child.

Interrater reliability

Interrater reliability of the scale was assessed in two ways. Pearson's product-moment correlation coefficient and Cohen's Kappa were calculated to compare the summary and subscale scores of social workers and primary teachers for each child. Pearson's *r* provides a measure of the extent to which subjects maintain their relative distance across the test-retest interval and it provides an upper limit to the reliability of a measure (Nunnally, 1978). Pearson's *r* of the summary scores across raters (social workers and primary teachers) was .8386. Cohen's Kappa takes into account the probability of chance agreement and thus provides a more stringent test of reliability. However, when Kappa is computed for a subscale containing a small number of items, the opportunity for chance agreement is high and Kappa will provide a low estimate of reliability. Kappa for the summary scores across raters was .7636. A summary of these results are presented in Table 4.

Before the validity of the TCCD was investigated, reliability of this new measure was assessed. Nunnally

Table 4

Interrater reliability: summary scores

	r	Kappa
Summary		
Score	.8386	.7634
(50 items)		
Subscales		
Dissociation	.6036	.43478
(11 items)		
Behavior	.8821	.73826
(7 items)		
Affect	.8680	.49612
(5 items)		
Magnification	.8895	.69291
(7 items)		
Abuse history	.7745	.34532
(5 items)		
Stress	.7771	.45378
(3 items)		

(1978) suggests that reliability coefficients for experimental measures should be greater than $r = .70$. The TCCD exceeded those standards for internal consistency, test-retest reliability and interrater reliability. Once the reliability of the TCCD was established, the hypotheses proposed in this study were investigated.

Validity

Results from the TCCD were expected to discriminate between children with DDs and those without in a population of children with learning disabilities. This primary expectation was one of concurrent validity: Can the instrument be used to dentify what it is expected to identify? The validity of the TCCD was determined by comparing the children independently identified with DDs to those identified with possible DDs by their high scores on the checklist.

Characteristics of the sample

Seven children in the sample had been independently diagnosed with DDs and were identified for analysis of the checklist results. As noted in Table 5, the children clinically identified with DDs were similar to the rest of the sample in age, sex, and race.

Table 5

Age and sex of subjects in the DD study

	Total sample (n=26)	DD group (n=7)	0-DD group (n=19)
Age (years:months)	12:3 SD=1:7	12:6 SD=2:0	12:2 SD=1:7
Sex: Males	24	7	17
Females	2	0	2

Group differences

A preliminary evaluation of the discriminant validity of the checklist was provided by an assessment of the mean differences in summary scores on the TCCD between children diagnosed with DDs and those not diagnosed. Table 6 lists the scores of each child by rater group. A directional *t*-test was used to test for group differences. Based on means of 40.8 (*SD*=10.6) for the diagnosed group and 17.0 (*SD*=12.8) for the 0-DD group, the difference was significant (t= 29.5, p <.001).

Discriminant Validity

The scale was designed to classify individuals rather than groups. For this instrument to be effective, scores must be used to classify all individuals in the groups in which they belong. Ideally, no overlap should exist between groups. For the TCCD, ideal discriminant validity would be a cutoff score on the checklist that 0-DD children always scored below and that DD children always scored above. Although this would be ideal, it is not realistic. First, the checklist measures a sample of presumed symptoms of dissociation, not the actual presence or absence of the phenomena. And second, there may be children with undiagnosed DDs in the 0-DD group.

The lowest score by a child in the DD group by any rater was used as the cutoff score for the TCCD. Scores of

the children diagnosed with DDs ranged from 26 to 58. The lowest score, 26 fell 2.5 SD below the mean score for the DD children (See Table 6). All children with scores equal to, or greater than 26 were classified with probable DDs while all those scoring lower were classified as 0-DD. Based on a cutoff score that classifies all children with DDs in the correct group, the test of validity becomes a measure of how well this excludes children without diagnosed DDs. However, the possibility of children with undiagnosed DDs in the 0-DD group remains.

Social workers' scores were more accurate in correct placement of children. They correctly classified 17 of the 0-DD children and incorrectly classified 2 of the 0-DD group in the probable DD group. Primary teachers tended to give children higher ratings overall, and misclassified 4 children (the two the social workers had misclassified an additional two) in the probable DD group.

Because a classification rule dichotomizes data, Cohen's Kappa was chosen as a measure of classification agreement. Based on a cutoff score of 26, Kappa was .7804 across raters. Kappa was higher for the social workers (.9065) than the primary teachers (.6689). Although discriminant validity of the TCCD was good over all raters, improvement of the instrument was needed for teachers.

Table 6

Scores of each child on the TCCD

Subject	Summary Score	Subscale scores*					
		D	B	A	M	H	S
DD group (social workers)							
11.	36	9	10	5	2	2	0
12.	47	11	14	4	6	0	1
20.	39	14	14	4	3	1	2
25.	38	12	9	7	4	1	2
32.	32	12	9	2	4	2	1
34.	32	5	7	6	2	1	0
35.	58	22	13	8	7	2	1
(Primary teachers)							
11.	44	16	13	7	4	1	1
12.	46	10	17	7	8	1	1
20.	38	12	15	4	4	1	1
25.	41	13	11	7	2	2	2
32.	26	8	8	2	0	3	1
34.	42	18	9	9	3	NA	NA
35.	52	19	14	7	8	NA	1

* Subscales: D=Dissociation, B=Behavior, A=Affect, M=Magnify, H=Abuse History, S=Stressors

Table 6 (continued)

Subject	Summary Score	Subscale scores					
		D	B	A	M	H	S
0-DD group (Social workers)							
10.	19	2	12	0	3	0	0
13.	15	0	11	0	2	1	0
14.	1	0	0	0	0	NA	0
15.	16	4	4	4	1	0	1
16.	4	1	1	0	NA	0	0
17.	1	0	0	0	NA	0	0
18.	23	8	6	7	1	0	0
19.	3	1	0	1	NA	0	0
21.	19	9	7	1	1	0	0
22.	28	6	10	4	4	0	1
23.	7	2	0	3	0	0	1
24.	12	3	2	3	1	0	0
26.	11	5	2	0	0	2	0
27.	6	0	1	1	0	0	2
28.	32	6	13	4	4	0	2
29.	3	1	0	0	0	0	0
30.	9	1	4	1	2	0	0
31.	18	2	5	4	0	0	5
33.	7	2	1	0	1	0	0

Table 6 (continued)

Subject	Summary Score	Subscale scores D	B	A	M	H	S
0-DD group (Primary teachers)							
10.	22	8	9	1	0	0	0
13.	10	1	6	1	1	NA	0
14.	9	5	2	1	NA	0	0
15.	35	16	7	2	1	1	1
16.	8	4	1	1	0	NA	1
17.	4	1	0	1	NA	0	0
18.	24	8	6	5	1	0	0
19.	14	1	0	1	NA	0	0
21.	16	8	5	0	1	0	0
22.	46	3	12	5	4	0	2
23.	14	3	6	0	3	2	0
24.	16	8	0	3	NA	0	0
26.	11	4	3	0	1	2	0
27.	14	4	4	3	0	NA	NA
28.	41	11	12	8	5	NA	NA
29.	4	2	1	0	0	0	0
30.	15	5	6	1	1	0	0
31.	40	15	8	6	4	NA	2
33.	7	4	1	0	NA	0	0

Item analysis

To improve the discriminant validity of the instrument, an item analysis was done to identify items that did not discriminate between groups. These items were eliminated and a revised version of the TCCD was constructed. Results of the revised version were re-scored and compared to the original.

The item analysis is presented in Table 7. The difference between group means served as a first evaluation of an item's utility. Items with greater than .5 difference between means were automatically retained. Items with less than a .5 difference between means were further evaluated. Theory, as well as inconsistency and overlap were considered.

The inconsistency score was used to screen for ambiguously worded items. Inconsistency was measured by the number of times an item was scored differently in the test-retest situation. Items with inconsistency scores greater than 8 should be evaluated for clarity. The overlap score represented the proportion of overlap between plus or minus one SD of the group mean item scores. These criteria were used to assess the checklist items. A conservative bias toward retaining items was adopted. This bias was maintained to prevent tuning the instrument to the specific study population and setting. For example, item 28, "refers to self in the third person", was retained although the

difference between group means was only .1667 and almost all children in the study received a rating of 0 on that item. The item was considered theoretically important as a dissociative symptom. A total of five items were eliminated: these were 1, 4a, 8, 15a and 26a.

Items 4a and 26a were part of the magnification subscale and item 15a was part of the dissociation subscale. All three items were rated 0 for almost all subjects, whether DD or non-DD. Item 8 was "creativity" which did not discriminate between groups. Item 1 was "seems unable to learn from experience". Although this item was considered important theoretically, it was not discriminatory and was addressed more specifically by item 18 "exhibits poor response to intervention programs".

Summary scores for the revised version of the checklist were calculated and a new cutoff score was chosen based on the lowest score of a DD subject. See Table 8 for a summary of scores. This new cutoff score was 24, two points lower than the previous one. Classification remained the same. Social workers identified the same two 0-DD subjects as having probable DD, while primary teachers classified those two and an additional two from the 0-DD group in the probable DD group (these were the same subjects misclassified on the original version of the TCCD).

Despite the lack of change in outcome on the revised TCCD, some qualitative differences were found in the revised

Table 7

Item analysis:

Item	Difference between means: DD - O-DD	Inconsistency	Overlap	Choice
1.	.27	6	.67	Out
2.	.6796	11	.31	
3.	.8993	6	.22	
4.	.8773	7	.23	
4.a	-.062	4	.84	Out
5.	.6925	9	.36	
6.	.5452	4	.45	
6.a	.4302	3	.26	
7.	.3697	12	.52	
8.	.1989	9	.76	Out
9.	.5129	2	.48	
10.	.4690	5	.60	
11.	.4393	1	.33	
12.	.5685	4	.46	
13.	.8449	2	.26	
14.	.9755	7	.29	
15.	.3979	2	.21	
15.a	.0556	2	.99	Out
16.	.5620	8	.39	
17.	.5181	3	.42	
18.	.5775	5	.40	

Table 7 (continued)

Item	Difference between means: DD - 0-DD	Inconsistency	Overlap	Choice
18.a	.4199	3	.2	
20.	.4716	4	.44	
20.a	.6434	2	.10	
21.	.6098	9	.31	
21.a	.6977	10	.50	
22.	.5853	7	.34	
23.	.8165	11	.33	
23.a	1.1401	6	.25	
25.	.7429	8	.37	
26.	.7235	11	.39	
26.a	0	0	1.0	Out
27.	.5297	6	.47	
28.	.1667	2	.88	
29.	.8230	7	.25	
30.	.3128	5	.73	
31.	.7313	6	.11	
32.	.3837	6	.47	
33.	.6383	7	.33	
34.	.9328	5	.27	
34.a	.7726	4	.29	
36.	.5039	7	.44	

version. Scores of members of the 0-DD group dropped slightly overall. The mean score in the DD group dropped from 40.8 to 37.8 (SD=9). At 1.3 SD from the mean score of the DD children, the cutoff score was closer to the middle range for the DD group than in the original version.

Scores on the revised version are presented in Table 8 and a frequency histogram of results of both versions is presented in Figure 1. The misclassified cases remained the same, but scores of these subjects were slightly closer to the mean of the 0-DD group. Kappas remained the same. The TCCD generally was used successfully to discriminate children with DDs (in combination or in isolation from LD) from those with LD. The social workers' ratings were especially good. Using the cutoff score that correctly classified 100 percent of the diagnosed children, 10.5 percent of the 0-DD children were misclassified. The primary teachers' ratings were not as accurate in discriminating the DD children from the rest of the sample; they misclassified 21% of the 0-DD children.

Discriminant analysis

Dissociative children were expected to score higher and be rated positively on more items on the TCCD. As Tables 6 and 8 illustrate, this did occur. It was also expected that items reflecting inconsistent behaviors (dissociation subscale) would be the major discriminating factor between

Table 8

Scores of each child on the revised TCCD

Subject	Summary Score	Subscale scores*					
		D	B	A	M	H	S
DD group (Social workers)							
11.	28	8	5	2	2	0	0
12.	36	10	13	4	6	0	1
20.	39	12	13	4	3	1	2
25.	38	12	8	7	4	1	2
32.	32	8	7	2	1	2	1
34.	24	5	6	6	2	1	0
35.	54	21	12	8	6	2	1
(Primary teachers)							
11.	44	16	13	7	4	1	1
12.	46	10	16	7	8	1	1
20.	36	11	15	4	3	1	1
25.	38	13	10	7	2	2	2
32.	24	8	7	2	0	3	1
34.	40	17	8	9	2	NA	NA
35.	51	18	13	7	7	NA	1

* Subscales: D=Dissociation, B=Behavior, A=Affect, M=Magnify, H=Abuse History, S=Stressors

Table 8 (continued)

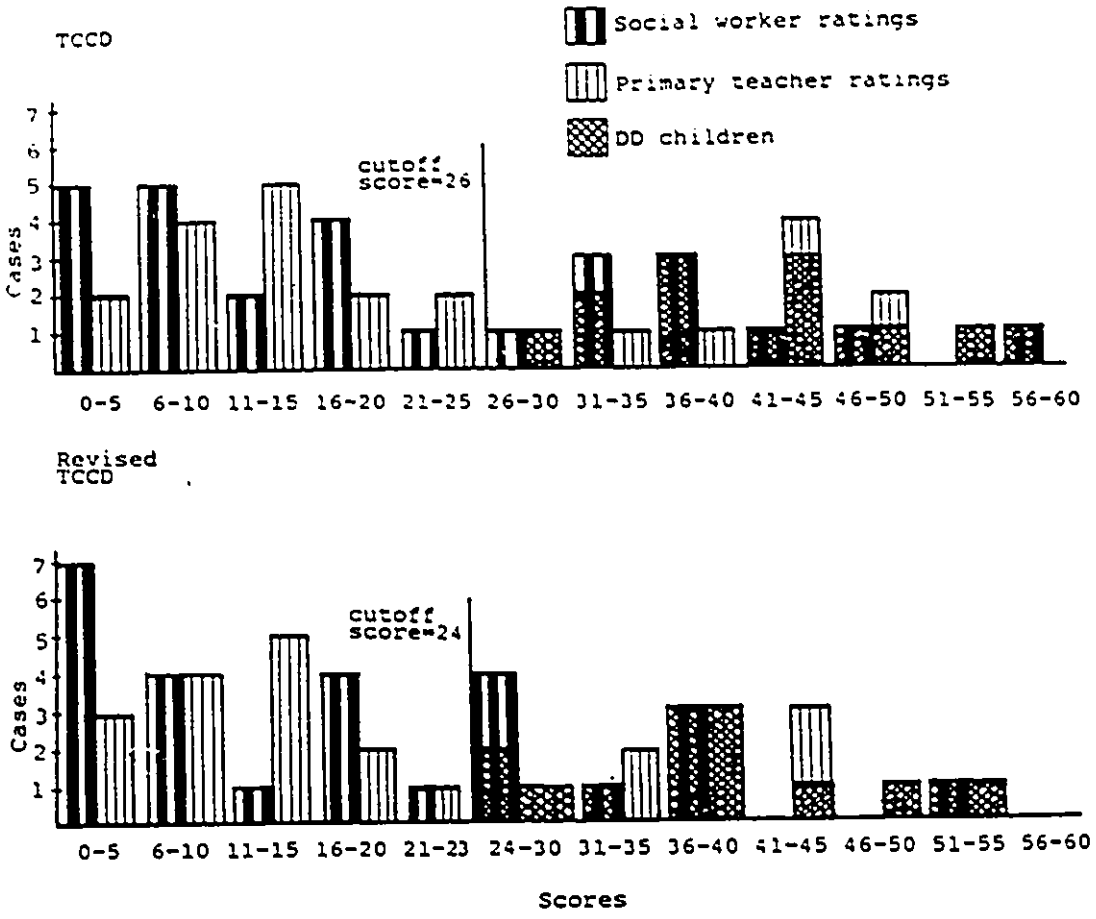
Subject	Summary Score	Subscale scores					
		D	B	A	M	H	S
0-DD group (Social workers)							
10.	17	2	11	0	3	0	0
13.	12	0	11	0	0	1	0
14.	0	0	0	0	0	NA	0
15.	16	4	4	4	1	0	1
16.	2	1	1	0	NA	0	0
17.	0	0	0	0	NA	0	0
18.	21	8	5	7	1	0	0
19.	3	1	0	1	NA	0	0
21.	18	9	6	1	1	0	0
22.	26	6	10	4	4	0	1
23.	6	2	0	3	0	0	1
24.	7	3	2	1	1	0	0
26.	10	5	2	0	0	2	0
27.	4	0	1	1	0	0	2
28.	30	6	12	4	4	0	2
29.	1	1	0	0	0	0	0
30.	6	1	4	1	0	0	0
31.	18	2	5	4	0	0	5
33.	4	2	0	0	1	0	0

Table 8 (continued)

Subject	Summary Score	Subscale scores					
		D	B	A	M	H	S
0-DD group (Primary teachers)							
10.	20	8	7	1	0	0	0
13.	7	1	5	1	0	NA	0
14.	7	5	1	1	NA	0	0
15.	32	15	6	2	1	1	1
16.	6	4	0	1	0	NA	1
17.	2	1	0	1	NA	0	0
18.	21	8	4	5	1	0	0
19.	13	8	4	0	NA	0	0
21.	13	8	4	0	0	0	0
22.	45	15	19	2	4	0	2
23.	14	3	6	0	3	2	0
24.	16	8	0	3	NA	0	0
26.	10	4	2	0	1	2	0
27.	11	4	3	3	0	NA	NA
28.	41	11	12	8	5	NA	NA
29.	2	2	0	0	0	0	0
30.	12	5	5	1	1	0	0
31.	35	14	7	6	3	NA	2
33.	4	4	0	0	NA	0	0

Figure 1

Frequency histogram of summary scores from the TCCD and revised TCCD



the DD group and the O-DD group. A discriminant analysis of the subscales of the TCCD revealed different patterns of discriminating factors for primary teachers and social workers.

Based on the pooled within groups correlation between subscales and the canonical discriminant function, the affect, behavior, dissociation, and magnification subscales (listed in descending order of importance), were the most salient subscales of the checklist for teachers. For social workers, the dissociation, magnification, abuse, and behavior subscales (listed in descending order of importance), were most highly correlated to the discriminant function. Across all raters, dissociation, magnification, affect, behavior and abuse (listed in descending order of importance) were most highly correlated.

Although inconsistent behaviors were the most salient portion of the checklist across all raters, inconsistent emotional states and post traumatic stress symptoms, reflected in the affect subscale, and behavioral problems, such as destructive behavior reflected in the behavior subscale, were more salient for teachers than were inconsistent behaviors.

However, this distinction may be more apparent than real. Some subscales were highly correlated with others and were dropped from the resulting discriminant function equation. For teachers, the dissociation subscale was

highly correlated with the behavior and affect subscales and was dropped from equation. Additionally, the magnification subscale was highly correlated with the abuse subscale and was also dropped from the equation. For social workers, the behavior and dissociation subscales were highly correlated with the magnification subscale and were removed from the equation.

Based on the resultant discriminant function equations social workers correctly classified 100 percent of the cases while teachers correctly classified 100 percent of the DD group and made one false positive diagnosis (5.3%) resulting in a 94.7 percent correct classification of the 0-DD group.

Discrimination between LD and DD characteristics

Children with the NLD learning disability subtype were expected to receive higher scores on the TCCD than those with the RS or "other" LD subtype without DDs, but lower scores than those with DDs. In addition, children with NLD were expected to be differentiated from those with DDs by their relative consistency and lack of creativity. Subjects were assigned LD subtypes based on neuropsychological test results (See Table 9). Eight children fit the RS pattern (31%) and the remainder were placed in the category "other". No children fit full neuropsychological criteria for the NLD subtype, although four children fulfilled 60% or more of the criteria.

Three of the seven subjects in the DD group were classified in RS group (43%). The remaining four children were placed in the "other" category (None met or exceeded 60% of criteria for NLD). As no children met full neuropsychological criteria for NLD, this hypothesis could not be tested. Although the DD group could not be compared to an NLD group, behaviors expected in NLD children were assessed by the experimental NLD scale (Rourke, 1993) and scores of the DD children could be compared to those of the rest of the sample. Reliability on the experimental NLD scale (Rourke, 1993), assessed by test-retest item agreement, was acceptable for an experimental measure (70.6%, SD=9.3).

Scores on the required portion of the NLD scale ranged from 10 to 33 based on raters with more than 50 hrs contact over three months with each child they rated. The mean score on the required portion for the DD diagnosed group was 22.1 (SD=4.8). For the 0-DD group, the mean score was 20.0 (SD=5.1) and 19.1 (SD=4.7) for the RS group. Children with DDs exhibited a tendency to score higher on the experimental NLD scale (Rourke, 1993).

Memory measures

Children with DDs were expected to exhibit relatively normal performance on tests of verbal and nonverbal memory, while those with specific LD subtypes (RS and NLD) were

Table 9

LD subtypes for subjects in the DD study

	Total sample (n=26)	DD group (n=7)	0-DD group (n=19)
LD subtype			
RS	8 (31%)	3 (43%)	5 (26%)
NLD	0	0	0
Other	18 (69%)	4 (57%)	14 (74%)

expected to exhibit specific deficits in verbal and nonverbal memory, respectively. Memory index scores, assessing overall memory, of all groups were equivalent and fell within the low average range. The DD group demonstrated higher scores on the visual memory subtests than on the verbal memory subtests, and a larger difference in favor of visual memory in comparison to the 0-DD group. However, these differences were not statistically significant (all ps > .20) (see Table 10).

Summary

Overall, the TCCD was a useful instrument for identifying children with DDs in the CAC population. Ratings of the children with DDs were higher than those the 0-DD group and covered a greater range of behaviors. Although children in the DD group were distinguishable from the 0-DD children by their dissociative symptoms, they were not generally distinct from the 0-DD children on measures used in this study to assess LD and memory characteristics.

Table 10

Memory test results for subjects in the DD study

	Total sample (n=26)	DD (n=7)	0-DD (n=19)
Memory index (Mean=100) (SD=15)	87 (SD=15.4)	89 (SD=10.14)	86 (SD=16.8)
Combined scales (Mean=20) (SD=6)			
Visual	18.3 (SD=4.6)	20.3 (SD=3.2)	17.5 (SD=5.0)
Verbal	14.6 (SD=5.8)	13.4 (SD=4.2)	15.0 (SD=6.2)
Difference Visual-Verbal	+3.7 (SD=6.4)	+6.9 (SD=3.8)	+2.5 (SD=6.8)
Range	-12 - +13	+1 - +12	-12 - +13

CHAPTER IV

DISCUSSION

The TCCD demonstrated good test-retest and interrater reliability. In addition, it appears to have good internal consistency and good criterion-related validity. The TCCD was expected to discriminate children independently diagnosed with DDs from those without DDs in population of LD children with socioemotional problems. Children with diagnosed DDs may have had a concurrent LD, or the DD may have been misdiagnosed as a LD.

The TCCD was very successful as a screening instrument for use by social workers; only two children in the sample were classified in the possible DD group who had not been independently diagnosed with DDs by a psychologist. The checklist was not as successful for primary teachers because they classified four children in the possible DD group who had not been previously diagnosed with DDs. Despite four false positives, primary teachers correctly classified 85% of the sample. The TCCD shows promise as a screening instrument for childhood dissociative disorders.

Misclassification

The four 0-DD children placed in the probable DDs group by teachers had never been evaluated for DDs or other

psychopathology because their behavior had not brought them to the attention of a psychologist. Because these children had never been psychologically evaluated, it was not possible to determine if these children met criteria for DDs or not. Since the checklist was for the identification of children with probable DDs, these four children will be evaluated by the psychologist connected with the centre during the upcoming school year.

Cutoff score and classification

The cutoff score of 26 (original version) was established to include all diagnosed DD cases. The TCCD was designed as a screening instrument for DDs in children, so it was considered better to falsely place a child in the probable DDs group than to falsely classify a DD child in the 0-DD group. Because the cutoff score of 26 fell 2.5 SD below the mean score of children with identified DDs, it was thought to provide a suitable classification boundary for probable DDs.

It is possible that checklist scores for some children with DDs may fall below the cutoff score. As illustrated by the frequency histogram presented in Figure 1, most scores of the 0-DD group fell below 20 (on both the original and revised version). Social workers gave 84 percent of the 0-DD subjects ratings of 20 or under while they placed only 5 percent of the 0-DD sample above 20, but below the cutoff

score (on both versions of the checklist). Primary teachers also gave the majority (74 percent) of 0-DD subjects ratings under 20, and placed only 5 percent (revised version) or 10 percent (original version) of the 0-DD group above 20, but below the cutoff score. It may be beneficial to create an intermediate group with scores below the cutoff, but over 20. Individual judgement could be made on the merits of screening for DDs for the few children placed in the intermediate category.

Range of scores on the TCCD

Scores on the TCCD quantify and rank children according to the number and type of observed behaviors associated with DDs. A continuum of scores was expected because dissociation occurs both as a normal phenomenon of childhood and as a pathological phenomenon. Dissociation may be considered pathological when normally experienced dissociative phenomena occur with such frequency that normal functioning is disrupted, or when the dissociative phenomena experienced are extreme, as in the existence of an alternate identity seen in MPD.

Low scores were expected for children without DDs, reflecting normal dissociative phenomena, while high scores were expected from those with DDs, reflecting the additive effect of normal and pathological dissociative phenomena. The mean scores of each group (0-DD & diagnosed DD) were

consistent with expectations. Because children who attend CAC are selected for both LD and socioemotional problems, the low scores of the 0-DD group suggests that scores on the TCCD do not reflect generalized social or emotional problems. High scores occurred primarily in the diagnosed DD group. The occurrence of high scores predominantly in the diagnosed DD group supports the position that the checklist measures dissociative phenomena.

The range of scores in the 0-DD group is consistent with the concept of dissociation occurring as a normal part of childhood. Normal dissociative phenomena are thought to increase in early childhood, peak during early adolescence, and decline from mid-adolescence through adult life (Putnam, 1991). It would be interesting to extend the use of the TCCD for subjects with a greater range in age than subjects in this study to discover if scores of 0-DD children follow this peaking and declining pattern.

In fact, one wonders whether TCCD scores of children with DDs would follow a similar rise across childhood and decline after adolescence. Use of the instrument for evaluating children over an extended age range would help to answer this question. If the extent of manifested symptomatology of DDs parallels the expected rise and fall of normal childhood dissociative phenomena, a single cutoff score may not be the best way to screen for childhood DDs. Across the limited age range (9 to 14 years) of children

evaluated in this study, no pattern of change in scores by age was noted.

Rater contact hours and TCCD scores

Although only the scores from raters with more than 50 contact hours over three months per child rated were used to classify children, the rank order of subjects was generally maintained across all raters. All raters reported a greater range of dissociative symptomatology in the DD children than in the 0-DD children. Raters with less than 50 contact hours with the children generated lower overall scores and a greater variability in rank order. This suggests that some discrimination between normal and pathological dissociative phenomena is possible under conditions of limited contact with a child. However, those raters with less than 50 hours of contact over three months had known each child an average of 17 months. The relative ability of these raters to discriminate between the children with pathological DDs and those without may be due to their relatively long term association with the children.

Scores from raters with more than 50 hours contact with children were higher overall and resulted in better discrimination between subject groups. Because DD symptoms are rare behaviors, it is likely that fewer dissociative phenomena were observed by raters with less contact hours and resulted in the lower average scores.

Although 50 hours was used as the cutoff for hours of contact in a three month period, the separation between the two groups of raters was greater than would be expected using that criterion. Raters with less contact spent 30 minutes to four hours per week with each child, while raters with more contact spent 8 to 20 hours a week with each child. For future scores of the TCCD to be comparable with the results of this study, children should be evaluated by raters with 8 or more contact hours per week, or approximately 100 hours of contact with a child over 3 months. This is typical of the contact primary teachers have with children. It may not be typical of the contact social workers have with children. If not, it would be interesting to discover if the social workers' accuracy in classifying children would be maintained with fewer hours of contact.

Overall, the range of scores obtained and separation between the low symptom group and the high symptom group suggests that this instrument may be effectively used to discriminate between children with DDs and those without.

Differences between rater groups: social workers and primary teachers

There are a number of factors that may have influenced scoring on the TCCD and resulted in better discrimination of DD children by social workers in comparison to primary

teachers. To begin with, the scale was developed from a psychological point of view which is more closely related to the perspective of a social worker than that of a teacher. Psychologists and social workers are trained to pay attention to behaviors that are different from those attended to by teachers. The focus for teachers is teaching and learning, usually in a group situation, while social workers and psychologists focus more attention on the emotional interactions between individuals in group or one to one interactions. Checklist items relate more to individual behaviors in social situation rather than to individual behaviors in a learning situation and are more closely related to a social work perspective than to a teacher perspective.

Secondly, the situations in which social workers in the present study saw children were different from teachers. Social workers generally see children in less structured situations which may permit the expression of a greater range of dissociative behavior. The classroom situation is more structured and provides a more limited range of experience in which dissociation may occurr. Thus, the better discrimination of the DD children by social workers in this study may have been a result of observing a greater range of dissociative behavior, rather than one of teachers having been less able to recognize dissociative symptoms.

A discriminant function analysis revealed that teachers

identified the DD children best through behavioral problems (behavior subscale) and affective symptoms (affect subscale), such as specific phobias and post traumatic stress symptoms, while social workers discriminated the children best through dissociative symptoms (dissociation subscale) and behavior sequences (magnification subscale). It may be possible to improve the scale for teacher's use by consulting with the primary teachers to discover the most salient factors that discriminate the diagnosed children from the others in a classroom situation and add additional items to the TCCD reflecting those factors. The addition of more dissociative behaviors reflecting affective and acting-out behaviors may also serve to tailor the checklist for more effective use by teachers.

Although these speculations may be valid, a third factor precludes drawing conclusions. The ratings of one primary teacher may have confounded the overall evaluation of teacher ratings. This one teacher consistently rated all children higher than the rest of the teachers or social workers. Classification of three of the four 0-DD children in the probable DDs group by primary teacher ratings were the result of this one teacher's ratings. Two of these children had not been rated probable DD by social workers, while one had. With such a small group of primary teachers (n=4), it is impossible to know if this teacher's scores were aberrant compared to the hypothetical average teacher's

ratings or not. If they were aberrant, the teachers may actually, on average, discriminate the between 0-DD children and DD children better than do social workers. However, nothing may be concluded until the instrument is tested with different raters in different situations.

Item analysis and the revised TCCD

The item analysis and checklist revision were done to improve the discriminant validity of the checklist, but the changes were not great enough to affect the outcome. Deleting the items seemed to contribute to a general lowering of both 0-DD and DD scores and placement of the low DD scores nearer the 0-DD group. Although the items dropped in the revised version were dropped because they did not contribute to the mean separation between groups, they did seem to contribute to separation of individuals receiving scores in the middle range. There were more children classified in the middle range on the revised version (See figure 1) and the cutoff score was closer to the mean of the DD group. The revision did not change the discriminant validity of the instrument. Further revision seems ill-advised before the instrument is tested in a different population with different raters. Revisions should be directed toward making the instrument broadly applicable rather than to tuning the instrument to the specific setting provided by this study.

NLD and DDs

All children in the study were diagnosed as learning disabled. Children in one specific LD subtype, the NLD subtype, were expected to resemble DD children in behavior more than those in other LD subtypes. For example, trance states and a poor sense of time are prominent dissociative symptoms in DD children. The NLD child, characteristically, also has a poor sense of time and may look vacant or appear to be in a trance because he/she does used inappropriate nonverbal behavior (Rourke, 1989). Although different causes underlie the expression of symptoms of the DD child and NLD child, to an observer they would appear similar.

In the general LD population, children with NLD stand out because of their lack of appropriate nonverbal behavior and socioemotional problems. However, all children in the CAC program are chosen for both their LD and socioemotional problems. The sample was, therefore, relatively homogeneous in relation to the criteria measured by the experimental NLD scale (Rourke, 1993) and no significant differences between groups were found, although a slight trend for higher scores was noted in the DD group. This suggests that there may be greater similarities in behaviors of children with DDs and those in the NLD child than to those of the rest of the LD population.

DDs and memory measures

Although children with DDs were not distinguished from the rest of the sample by their scores on verbal and visual memory measures, they did display a trend toward higher visual memory scores. This may be as a result of many factors, a quirk of sampling being the most likely cause. However, it is interesting to note that the slightly higher performance on tests of visual memory is consistent with Terr's (1991) observations that children who have been traumatized (repeated traumatizations may lead to dissociative disorders) experience intrusive visual imagery of the traumatic situations.

Limitations

Several limitations make conclusions from this study tentative until further investigations are done. The predominance of males in the sample presents a serious limitation. Most suppositions and knowledge about DDs, on which the checklist was fashioned, have come primarily from retrospective reports of adult female patients. Although it seems probable that DDs arise similarly in males and females, important sex differences may exist in the expression of dissociative symptoms. In fact, in the literature on adult DDs, male patients are thought to be under-represented in the patient sample because males with DDs act out in ways that result in prison sentences rather

than in treatment. Dissociative behavior in female children may be less noticeable than in male children. The TCCD must be tested in a setting with female children with DDs to establish the utility of employing the measure to screen for DDs in all children.

Another serious limitation is the small size of the clinical sample. Specific characteristics of the children, raters (especially of the one teacher mentioned earlier), and setting may have influenced the results. Replication and extension of this pilot study is needed to further establish the validity of the TCCD.

Conclusions

The results of the study are encouraging despite the limitations discussed above. The TCCD demonstrated good reliability and concurrent validity. This suggests that the checklist is a useful tool for non-professionals' use in screening for DDs in children. Although other checklists have been used for screening for DDs in children, this is the first to be specifically prepared for and tested by non-clinicians. Non-clinicians were able to use the TCCD to identify children with probable DDs. The TCCD has the potential to provide a simple screening measure for the identification of this often missed and misdiagnosed childhood disorder. However, the results of this study must be replicated in additional child populations, with a

variety of raters to test the concurrent validity of the instrument. Plans are underway to test the instrument in a population of abused children.

It is suggested that scoring for the original, rather than the revised, version of the checklist be used for further reliability and validation studies and that revisions of the checklist should be based on the combined results of this pilot study and future studies. Because of the differences between social worker and teacher ratings found in the discriminant analysis of the TCCD subscales, it is tentatively suggested that different checklist versions for teachers, social workers, and caretakers, based on behaviors and situations most typically observed by these raters, may prove to be the best method of screening for DDs in children.

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APPENDIX A

The Teacher Checklist for Childhood Dissociative Disorders: Experimental Version

Child's name: _____ Reporter's name: _____

Hours/week with child _____

The purpose of this checklist is to explore childhood behavior in a school/treatment setting. Some of the following behaviors are typical of many children, while others may be seen in only a few. Please mark the blank that best expresses your knowledge of this child. Please keep 'Don't know/Not applicable' to a minimum.

The Child/Adolescent:	No	Somewhat Occasionally	Yes Very much Frequently	Don't know Not applicable
1. seems unable to learn from experience	___	___	___	___
2. talks to self, may appear to reply to an internal voice	___	___	___	___
3. exhibits sudden marked changes in mood or behavior	___	___	___	___
4. denies doing something that he/she has been observed	___	___	___	___
a) doing the denied behavior was a misbehavior	___	___	___	___
5. has intermittent unexplained sadness	___	___	___	___
6. hurts other children	___	___	___	___
a) after which, child goes back to 'normal' with seemingly no memory of previous behavior	___	___	___	___
7. has a poor sense of time.	___	___	___	___
8. is creative	___	___	___	___
9. has very specific phobia(s)	___	___	___	___
10. exhibits inconsistent knowledge, wide fluctuations in ability	___	___	___	___
11. reports sense of being made to misbehave or hurt self	___	___	___	___
12. exhibits physically dangerous behavior	___	___	___	___
13. escalates when sent to crisis	___	___	___	___
14. gets so wrapped up in a book, movie or activity that he/she is oblivious to anything else	___	___	___	___

Appendix A (Continued)

The Child/Adolescent:	No	Somewwhat Occasionally	Yes Very much Frequently	Don't know Not applicable
15. calls self another name	—	—	—	—
a) known nickname?	—		—	—
16. has an erratic memory, good at times, poor at times	—	—	—	—
17. is preoccupied by death	—	—	—	—
18. exhibits poor response to intervention programs	—	—	—	—
a) staff originally had high expectation that intervention would work with this child	—	—	—	—
19. has imaginary companion	—	—	—	—
20. exhibits self-destructive behavior	—	—	—	—
a) after which, child goes back to 'normal' with seemingly no memory of previous behavior	—	—	—	—
21. appears dazed or in a trance	—	—	—	—
a) it is difficult to get the child's attention when he is in this state	—	—	—	—
22. is forgetful, has a poor memory	—	—	—	—
23. acts like a much younger child at times	—	—	—	—
a) this occurs in response to an obviously stressful situation	—	—	—	—
24. consistently acts like a much younger child	—	—	—	—
25. worries excessively	—	—	—	—
26. blames others for own misbehavior	—	—	—	—
a) blames imaginary other	—	—	—	—
27. lies	—	—	—	—
28. refers to self in the third person	—	—	—	—
29. seems hypervigilant, may show exaggerated startle response	—	—	—	—
30. exhibits extremely limited range of emotional response	—	—	—	—

Appendix A (Continued)

The Child/Adolescent:	No	Somewwhat Occasionally	Yes Very much Frequently	Don't know Not applicable
31. has done things for which he/she has no memory	—	—	—	—
32. is sexually inappropriate	—	—	—	—
33. language changes markedly at times	—	—	—	—
34. has temper outbursts and/or explosive anger	—	—	—	—
a) after which, child goes back to 'normal' with seemingly no memory of previous behavior	—	—	—	—
35. makes up stories or exaggerates truth	—	—	—	—
36. exhibits perplexing forgetfulness (for information such as, teacher or friends'names, favorite and/or habitual activities)	—	—	—	—

HISTORY:	No	Yes, prior to past 6 months	Yes in past 6 months	Don't know Not applicable
1. parent(s) participate consistently in parent/teacher conferences	—	—	—	—
2. child has made expected progress at CAC	—	—	—	—
3. child lives in two parent home	—	—	—	—
4. child lives in a single parent home	—	—	—	—
5. child does not live with either parent	—	—	—	—
6. child has known history of physical abuse	—	—	—	—
7. child has known history of sexual abuse	—	—	—	—
8. school staff has reported suspicion of child abuse to Children's Aid or Child Protective Services	—	—	—	—
9. child has been removed from parental home due to abuse	—	—	—	—
10. child has history of other severe trauma, (eg. death of parent, serious illness or condition requiring repeated hospitalization, intrusive medical procedures)	—	—	—	—

Thank you very much for your time and effort. Please feel free to make brief comments about this child or checklist in the remaining space.

APPENDIX B

Listing of Subscales, Corresponding Checklist Items, and Sources

1) DISSOCIATION SUBSCALE (Items: 3, 7, 10, 14, 15, 15a, 16, 21, 21a, 22, 28, 31, 33, 36)

AMNESIAS (Putnam, 1978, 1991; Peterson, 1990)

Actions for which has no memories (Kluft, 1984)

Observed behavior denied (Reagor, Kasten, Morelli, 1992)

Poor Memory (Kluft, 1984)

Forgetfulness (Fagan & McMahon, 1984; Reagor, Kasten, Morelli, 1992)

Lack of conscious knowledge of recent events (Fagan & McMahon, 1984)

Perplexing forgetfulness for information such as homeroom teacher or best friend's names, important events (Putnam, 1991)

Erratic access to memory, inconsistent memory (Putnam, 1991)

TRANCE-LIKE BEHAVIOR (Putnam, 1991; Kluft, 1978; Kluft, 1984; Peterson, 1990; Ross, Heber, Norton, Anderson, Anderson, Borchet, 1989)

Dazed or in a trance (Fagan & McMahon, 1984; Putnam, 1991; Dell, Eisenhower, 1990))

Autohypnosis (Kluft, 1984)

Appendix B (Continued)

BEHAVIORAL FLUCTUATIONS (Putnam, 1991; Kluft, 1978; Peterson, 1990)

- Variations in ability and attributes (Fagan & McMahon, 1984; Reagor, Kasten, Morelli, 1992)
- Varied cognitive capacities (Kluft, 1984)
- Inconsistent knowledge, erratic access to skills, may be misinterpreted as oppositional behavior when person doesn't believe child cannot do skill previously could do (Putnam, 1991)
- Erratic academic performance (Kluft, 1984)
- Shifting preferences (Putnam, 1991; Reagor, Kasten, Morelli, 1992)
- Different friendships (Kluft, 1984)
- Fearful regressive episodes (Reagor, Kasten, Morelli, 1992)

MPD LIKE SYMPTOMS

- Different patterns of voice, speech, and body language (Kluft, 1984)
- Marked changes in personality (Fagan & McMahon, 1984)
- Refers to self in 3rd person, third person quality (Peterson, 1990)
- Calls self another name, answers to more than one name (Fagan & McMahon, 1984)

Appendix B (Continued)

2) MAGNIFICATION SUBSCALE (Items: 4a, 6a, 18a, 20a, 23a, 26a)

3) BEHAVIOR SUBSCALE (Items: 1, 4, 6, 12, 13, 20, 25, 27, 32, 34, H8, H2)

LYING

Apparent pathologic lying and other false avowal or behavior (secondary gain issues complicate this determination when child misbehaves) (Putnam, 1991)

Seems to lie (Kluft, 1984, 1978; Peterson, 1990)

CONDUCT DISORDERED BEHAVIOR

Aggression (Putnam, 1991)

Explosive anger (Putnam, 1991; Dell, Eisenhower, 1990; Fagan & McMahon, 1984; Reagor, Kasten, McMahon, 1992)

Injuring others (Fagan & McMahon, 1984)

Risk taking (Putnam, 1991)

Truancy (Fagan & McMahon, 1984)

SELF-DESTRUCTIVE BEHAVIOR

ABERRANT SEXUAL BEHAVIOR

Promiscuity, sexual precocity (noted in about 2/3, but symptoms may not be dissociative (Putnam, 1991)

Appendix B (Continued)

POOR RESPONSE TO INTERVENTION (Kluft, 1978; Peterson, 1990)

SEEMS UNABLE TO LEARN FROM EXPERIENCE (Kluft, 1984; Reagor, Kasten, Morelli, 1991)

4) AFFECT SUBSCALE (Items: 5, 9, 17, 25, 29, 30)

Mood disorder symptoms, (Kluft, 1978; Peterson, 1990)

INTERMITTENT DEPRESSION almost universal (Dell, Eisenhower, 1990; Putnam, 1991; Reagor, Kasten, Morelli, 1992)

POSTTRAUMATIC SYMPTOMS (Putnam, 1981, 1991)

INTRUSIVE IMAGERY (Putnam, 1991)

5) HISTORY OF ABUSE SUBSCALE (Items: H6, H7, H8, H9, H10)

PHYSICAL ABUSE (All authors)

SEXUAL ABUSE (All authors)

EMOTIONAL ABUSE (All authors)

6) PROCESS SYMPTOM SUBSCALE (Items: 2, 11)

Sense of being made to misbehave or hurt self (Putnam, 1991)

AUDITORY HALLUCINATIONS

Internalized voices (not responsive to neuroleptics) (Putnam, 1989, 1991; Kluft, 1978,

Appendix B (Continued)

1984, 1985, Nurcombe, LaBarbera, Tramontana, et al, 1990; Ross, Norton, Wozney, 1989; Peterson, 1990)

IMAGINARY COMPANIONS After age 5 or 6 (Putnam, 1881)

7) DEVELOPMENTAL SUBSCALE (Item: 23)
(Kluft, 78; Peterson, 90)

8) CREATIVITY (Item: 8)

9) STRESSORS SUBSCALE (Items: H1, H4, H5)

Appendix B (Continued)

SUMMARY

Teacher Checklist for Childhood Dissociative Disorders:

Items

Category	Question #		Synopsis
DISSOCIATIVE SYMPTOMS			
1.1 Memory problems	(1)	31	no memory for act
	(2)	36	perplexing forgetfulness
	(3)	16	erratic memory
	(4)	7	poor time sense
	(5)	22	forgetful, poor memory
1.2 Trance-like behavior	(6)	21.a	difficult to get child's attention when trancelike
	(7)	21.	dazed, trancelike
	(8)	14	wrapped up in activity
1.3 Inconsistent knowledge	(9)	10	inconsistent knowledge
1.4 Third person	(10)	15	another name
	(11)	28	self in 3rd person
	(12)	33	language changes
	(13)	15.a	other name, not nickname
BEHAVIORAL PROBLEMS			
2.1 Apparent lying	(14)	4	denies observed behavior
	(15)	27	lies
	(16)	28	blames others, misbehaving

Appendix B (Continued)

2.2 Conduct disordered	(17)	12	physically dangerous behavior
	(18)	2	hurts others
	(19)	13	escalates in crisis
2.3 Self-destructive	(20)	20	self-destructive
2.4 Sexually inappropriate	(21)	32	sexually inappropriate
2.5 Lacks benefit of experience	(22)	1	unable to learn from experience
	(23)	2	poor response to intervention
	(24)	18	expected progress not seen
AFFECTIVE AND ANXIETY SYMPTOMS			
3.1 Affective symptoms	(25)	5	sporadic unexplained sadness
	(26)	25	worries excessively
	(27)	30	limited emotional response
3.2 Anxiety/PTSD	(28)	29	hypervigilant
	(29)	9	specific phobias
	(30)	7	death preoccupation
PROCESS SYMPTOMS			
4.1 Process symptoms	(31)	11	sense of having to hurt self
	(32)	2	talks conversationally to self
DEVELOPMENTAL ISSUES			
5.1 Developmental issues	(35)	23	intermittent acts much younger

Appendix B (Continued)

SYMPTOM MAGNIFICATION			
7.1 Symptom magnification	(37)	4.a	denied beh* not misbehavior
	(38)	6.a	hurts other, no memory
	(39)	20.a	self-destructive, no memory
	(40)	34.a	temper outbursts, no memory
	(41)	23.a	young beh, stress response
	(42)	26.a	blames imagined other, bad beh
	(43)	18.a	poor intervention response high original expectations
CREATIVITY			
5.1 Creativity	(33)	8	creative
ABUSE HISTORY			
8.1	(44)	H.9	child removed from abusive home
	(45)	H.6	hx**, physical abuse
	(46)	H.7	hx, sexual abuse
	(47)	H.8	staff report suspicion of abuse
	(48)	H.10	hx of other severe trauma
STRESSORS			
9.1	(49)	H.5	not living with either parent
	(50)	H.4	single parent home
	(51)	H.1	lacks parental participation

*behavior ** history

APPENDIX C

Rules for Scoring the Teacher Checklist for Childhood Dissociative Disorders

1. Items 19, 24, 35, and H3 are dummy items. Do not score.
2. Score all items before the history section, except 15a, as Yes=2, Somewhat=1, and No or Don't know=0.
3. Score 15a, yes=0, somewhat=1, and no=2.
4. Score items H1, and H2, no=1, each yes or don't know=0.
5. Score items H4, H5, H6, H7, H8, H9, and H10, each yes=1, each no or don't know=0.
6. Add all scores to compute the summary score.
7. Compute subscale scores, by adding scores of all items within the subscale.
    1) Dissociation (Items: 3,7,10,14,15,15a,16,21, 21a,22,28,31,33,36)
    2) Magnification (Items: 4a,6a,18a,20a,23a,26a)
    3) Behavior (Items: 1,4,6,12,13,20,26,27,32,34,H8, H2)
    4) Affect (Items: 5,9,17,25,29,30)
    5) History of abuse (Items: H6,H7,H8,H9,H10)
    6) Process symptoms (Items: 2,11)
    7) Development (Item: 23)
    8) Creativity (Item: 8)
    9) Stressors (Items: H1,H4,H5)

APPENDIX D

NLD Scale: Experimental Version and Scoring Rules

NLD SCALE: Experimental Version (March, 1993)

Child's Name: _____ Reporter's Name: _____

Child's Age: _____ Relationship to Child: _____

Child's Gender: _____ Child has been known to Reporter for _____ months.

Today's Date: _____

Caretaker/Observer Notes and Instructions:

(1) **Age.** This scale is designed for use with children as young as 7 years and with adolescents.

(2) **Familiarity with the child/adolescent.** It is important that the person who completes this scale has observed the child/adolescent over a time period of at least three months during the previous six months, and for a total of at least 50 hours during that time frame.

(3) **Observed behaviours.** The caretaker/observer should answer each question in terms of his/her own experience with the child/adolescent. Of interest is whether and to what extent a behaviour is evident, **not** whether and to what extent the child is **capable** of exhibiting the behaviour.

(4) **Three-point scale.** All of the questions are to be answered on a three-point scale, as follows: (i) no, not at all; never; (ii) somewhat; every once in a while; (iii) yes, very much; frequently.

(5) **Required and optional questions.** Questions 1 through 23 **must** be answered. Either or both of the optional sections (questions 24 through 30 and 31 through 40) **may** be answered by the caretaker/observer who feels that he/she is in a position to do so [see (2) above].

(6) **Additional comments.** The caretaker/observer should feel free to add comments in the space provided on page 3. Comments on the following would be appropriate: (a) relevant aspects of the child's behaviour that the scale does not cover; (b) the adequacy/inadequacy of particular items in the test; (c) any other child-specific or test-specific comments that the caretaker/observer feels are relevant.

Appendix D (Continued)

2

Required Questions	No	Somewhat	Yes. Very Much
The Child/Adolescent:			
(1) is appropriately responsive to noises or sounds	-	-	-
(2) follows verbal commands	-	-	-
(3) is attentive to auditory-verbal input	-	-	-
(4) easily remembers verbal material	-	-	-
(5) engages in simple, repetitive motoric activities	-	-	-
(6) explores objects by touch	-	-	-
(7) engages in visual exploration of environments	-	-	-
(8) is attentive to visual stimuli	-	-	-
(9) remembers what he/she sees	-	-	-
(10) engages in age-appropriate psychomotor activities	-	-	-
(11) relishes new environments; explores them actively	-	-	-
(12) is eager to engage in new activities	-	-	-
(13) seeks out and enjoys problem-solving activities	-	-	-
(14) has age-appropriate understanding of concepts	-	-	-
(15) echoes (i.e., repeats verbatim) verbal messages	-	-	-
(16) remembers what is said to him/her	-	-	-
(17) exhibits age-appropriate pronunciation of words	-	-	-
(18) speaks out of turn; interrupts when others are trying to speak	-	-	-
(19) has age-appropriate orientation to day of the week, time of day, and other dimensions of time	-	-	-

Appendix D (Continued)

3

Does the child/adolescent:	No	Somewhat	Yes. Very Much
(20) Speak more frequently and at greater length than others of his/her age?	-	-	-
(21) Prefer to spend time talking or reading rather than engaging in physical (including sporting) activities?	-	-	-
(22) Prefer to interact with younger persons or adults rather than same-age children/adolescents?	-	-	-
(23) Shy away from new, novel, or complicated social events?	-	-	-

Comments:

Appendix D (Continued)

4

Optional Questions

(i) **Academic**	No	Somewhat	Yes. Very Much
The child/adolescent:			
(24) exhibits neat (appropriate for age) handwriting	_	_	_
(25) reads single words at or above age-expectation	_	_	_
(26) spells words at or above age-expectation	_	_	_
(27) recalls(recites) academic material easily	_	_	_
(28) comprehends reading material at or above age level	_	_	_
(29) does age-appropriate arithmetic calculations	_	_	_
(30) deals well with scientific concepts and reasoning	_	_	_
(ii) Social/Emotional/Adaptive			
(31) seeks out new friends and new experiences	_	_	_
(32) behaves appropriately with same-age children	_	_	_
(33) prefers company of family members to that of others	_	_	_
(34) behaves appropriately with adults	_	_	_
(35) reacts with appropriate emotion in social situations	_	_	_
(36) exhibits an age-appropriate level of general physical activity	_	_	_
(37) exhibits age-appropriate levels of skill in psychomotor (including sport) activities	_	_	_
(38) tends to play with younger children	_	_	_
(39) displays an age-appropriate range of emotional responsivity	_	_	_
(40) is socially "popular" with age-mates	_	_	_

Appendix D (Continued)

NLD SCALE: Experimental Version (March, 1993)

SCORING

At this point, we know very little about the characteristics of the NLD scale. Hence, anything that is said about it is, at best, tentative and hypothetical.

However, in order to proceed with the assessment of the reliability and validity of the scale, it is necessary to have a clear scoring system available. The one that we are using now is as follows:

(1) Each item is scored on a scale of 0, 1, and 2, corresponding to the three response categories.

(2) This yields a total possible score of 0 to 80; the higher the score, the more likely that the child/adolescent exhibits NLD.

(3) The items have been arranged in such a manner that the direction of the scoring needs to be adjusted in terms of the criterion just above (2).

Hence, the following (18) items are those where a response of yes, very much yields a score of 2; yes, a little, 1; and, no, not at all, 0:

1, 2, 3, 4, 5, 15, 16, 18, 20, 21, 22, 23, 25, 26, 27, 33, 34, 38.

The remainder (22) of the items are those where a response of no, not at all yields a score of 2; yes, a little, 1; and, yes, very much, 0.

It is clear that these scoring rules will change as we learn more about the characteristics of the scale. The changes that we feel are necessary will be reported as and when we and others demonstrate their effectiveness.

APPENDIX E

Criteria for Classification in LD Subtypes

NLD: From Casey, Rourke, and Picard, (1991, p.330-331).

1. Bilateral tactile-perceptual deficits, often more marked on the left side of the body.
2. Bilateral psychomotor coordination deficiencies, often more marked on the left side of the body.
3. Outstanding deficiencies in visual spatial organization.
4. Very well developed rote verbal capacities, including extremely well-developed rote verbal memory skills.
5. Outstanding relative deficiencies in mechanical arithmetic as compared with proficiencies in reading (word-recognition) and spelling.

RS: WRAT-R Reading and Spelling scores are 10 points or more below WRAT-R Arithmetic scores.

Other: Does not fit NLD or RS subtype.

APPENDIX F

LD Subtype Classification of Subjects

1=Yes, 0=No

Subject	NLD Criteria					LD Subtype		
	1	2	3	4	5	NLD	RS	OTHER
10	0	0	0	0	0	0	0	1
11	0	0	0	1	0	0	0	1
12	0	0	1	1	0	0	1	0
13	?	?	0	1	0	0	1	0
14	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	1	0
16	1	0	0	0	0	0	0	1
17	0	0	1	1	1	0	0	1
18	1	1	0	0	0	0	0	1
19	1	0	0	0	0	0	0	1
20	0	0	0	?	0	0	1	0
21	0	1	0	1	1	0	0	1
22	1	1	0	0	0	0	1	0
23	0	0	0	?	0	0	1	0
24	0	0	0	0	0	0	0	1
25	1	1?	0	?	0	0	0	1
26	1?	1?	0?	1	1	0	0	1
27	0?	0?	1	?	0	0	1	0
28	1	0	0	0	?	0	0	1

Appendix F (Continued)

Subject	NLD Criteria					LD Subtype		
	1	2	3	4	5	NLD	RS	OTHER
29	0	0	0	?	0	0	0	1
30	?	0	0	?	0	0	0	1
31	1	0	0	1	1	0	0	1
32	0	0	0	?	0	0	1	0
33	0	0	0	0	0	0	0	1
34	?	0	0	0	0	0	0	1
35	1	0	0	0	0	0	0	1

APPENDIX G

Memory Test Results

Combined scale scores
Mean=20, SD=6

Index scores
Mean=100, SD=15

Subject	Memory Index	Visual Scales	Verbal Scales	Difference Visual - Verbal
10	57	11	7	+4
11	105	22	21	+1
12	91	20	13	+6
13	80	21	8	+13
14	69	15	8	+7
15	98	18	22	-4
16	86	19	13	+6
17	100	14	26	-12
18	60	8	12	-4
19	105	22	21	+1
20	82	20	10	+10
21	91	22	13	+9
22	64	15	5	+10
23	122	28	24	+4
24	91	17	16	+1
25	77	16	11	+5
26	96	16	22	-6
27	91	14	19	-5
28	78	19	9	+10

Appendix G (Continued)

Combined scale scores
Mean=20, SD=6

Index scores
Mean=100, SD=15

Subject	Memory Index	Visual Scales	Verbal Scales	Difference Visual - Verbal
29	78	13	14	-1
30		NOT TESTED		
31	89	18	16	+2
32	82	21	9	+12
33	100	25	15	+10
34	82	17	13	+4
35	105	26	17	+9

Vita Auctoris

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